BEST PRACTICES COURSE – WEEK 26 In-Office Project Management - Part 3 - File Naming and Backup Strategies, Version and Revision Tracking

Welcome everyone to the Best Practices Course ArchiCAD training lesson. Today we'll be focusing on In-Office Project Management and Revisions. Revisions in the sense of changes to your project over time and changes to your projects that you want to compare or swap in and out; things like that. So I'm going to ask you a question to fill into the questions box. Where are some of the challenges you've had when you've been running a project? You ever run into the issue where, for example, client says, "We decided not to do this a couple of weeks ago, but we've changed our minds. We want that option." Or, "You had a version of the roof that was different before, and I'd like to have that." Or, "I was looking at this, this is different than what I remember, what is it?" [0:00:58]

Or do you ever have the issue of you're looking at your project and going, *what happened to that detail I was working on*? Or, *I thought we marked this up and took care of it. Is this the right version of the file*? *Who has been working on this file*? Do you ever have questions of keeping track of revisions, knowing what the latest one is, going back to older ones or getting pieces of them? Does this ever come up? So I want to ask you if this line of thought is an issue, as I think it might be from time to time. [0:01:37]

And Tom says, "Lots of the same issues." The general nod that what I described at least comes up for Tom's office.

Colin says, "I save daily revisions of files and can copy and paste pretty easily." Okay, so that's part of what I'm going to cover here is what's the best way to handle daily revisions and things like that.

Ken Andrews says, "I've had those issues, yes." Okay. It would be interesting if you could type in maybe some specific ones. In other words, you had a client who wanted something and you had to recreate something from scratch because that version had been lost and you no longer had a copy of it. it would be interesting to know if that ever comes up. I can just imagine that it might be, but it helps to hear from you. [0:02:30]

So Scott says, "This happens often, but I save different generations with the date. I save them then work from the current file." That's a very good way to do it.

Ken Andrews says, "I use dates on the .pln files and never get rid of the older files." Okay.

Bob says, "Significant issue during permit application process when plan checkers are involved." Okay, so maybe you can expand what happens when plan checkers are involved and what types of issues come up.

Tom says, "A client went back to an older version." Yes. So that's definitely what we're talking about here. [0:03:03]

Feel free to add some more comments about when this has come up, as well as your strategies. I think those of you who've said "I do it this way," yes, you are right on because I'm going to be talking about some things that maybe some of you are missing out on the safety net that might be part of a good revision system. I'm not talking about marking up clouds, because that's the Change Manager in ArchiCAD 18. I'm talking about just having different versions of your file and keeping track of them properly. [0:03:43]

 So let me start out with a simple thing here. I'm going to draw a box and just give it a little more definition. This is the simplest footprint of the building. I'm going to save this. We are in week 26. I will name it "Week 26 - 3 design example." Now this let's just pop in a couple of windows here. Pop in a door. I'm quickly making some changes here. Now I'm going to go to the File menu and Save. What has happened here? We have a file with a certain name. I'm doing some work. At a certain point, I should save it. And how often should you save? [0:04:57]

Certainly you don't want to save every 2 minutes, there's no point in doing that. but you probably want to save on a regular basis during the day. I have had people over the years saying, "Eric, I was working for half the day and the computer crashed. I went to the backup file; ArchiCAD said it had a version of the file that I can open up, but it didn't open it. There's damage. What do I do? It looks like I've lost this work." Sometimes they'll have a copy from yesterday, sometimes it is their only copy and it's damaged. So one case might have lost hours of work and another case possibly a much bigger amount having to reconstruct the designs. [0:05:47]

So we've come up with this type of scenario over time. Right now, when I create this file, I save it in the Best Practices Course here, week 26. Here's the project file I am currently in. Here's the .bpn, this is the backup plan that was from a minute earlier, and here is the .lck file. This indicates that the file is currently in use, and if this happened to be on a server and somebody else in my office went to open it up, they would get a message saying "Eric is working on it," and they would either be offered the opportunity to get a read-only copy, because maybe they just need to look at something or print something out, or could potentially say, "I want to take over from Eric," in which case they would get the permission to own that .pln file and be able to override it, which could be problematic if I have the file open and we are both making changes. [0:06:51]

This is the reason why that warning message would come up with the .lck or lock file is to prevent two people from working on the same file unknowingly making concurrent changes. So as long as you know and have warning then of course the ideal would be to discuss it and figure out who's going to work on the file. or if somebody's going to make a copy of the file to work on it. So anyway, that's a little bit of the basics of simple file management. This file has a name, "Week 26 -3 Design Example". Let's say that

I continue to work on in the after day. It could be the Smith house or so-and-so hospital. It has a certain name. [0:07:31]

Now, I'm going to do some examples of some bad practices that I seen in offices. Let me make a couple of more changes here. I will put on a roof here. I'm just going to sort of sketch on one roof and then another one here, maybe a lower roof or something like that here. I don't know if this is going to make any sense at all here. That's not going to work, let me just put on a flat roof on this just to make it simple. We are going to have a polygon and a single roof. And let's make this a 0 and 12. Okay, it is a flat roof that it's set up for, interestingly. [0:08:32]

I'm just putting on some stuff here. Did I make any sense at all? Well, it doesn't exactly make sense, but at least it's not crazy. So this is a version of the file, and let me go and save it. At some point, you may be tempted to say, "We've been working on this for a while, but this is really the final version. This is the one we want to show the client or we want to submit to the city," so we're tempted to change the name to say "Final" or something. So now it has a new name. We go back to this and you can see here's "Final," it's open. It has the lock file. This is from a few minutes before, so it's now out of date. [0:09:23]

Okay, let's say we're doing some more work here. I'm just going to put in - just to be arbitrary, let's go and put in some trees and landscaping here. So we will put in simple trees around. I'm doing some landscaping here, and I decide this is going to be a version, "Design Example with Landscape." Okay, now I have a little bit of confusion here. If I close this up and tomorrow or maybe next week or next month or next year, come back and say, "Which one of these files should I open?" Well, there are several. And of course the landscape one does have the latest date here. So that's one way to tell that it is the latest version of it; the most developed at the latest time. [0:10:25]

But occasionally, people will just drag it to the desktop. They will put it in a different place so they can find it again. So now we have something that says "Final" and something that says "latest version" and something that says "Print This One," and we literally might have several ones that all are telling us that they are the last version or that there the one that we should use. And maybe they're in different places. So depending on whether you go into one folder or the desktop or somewhere else, you may be confused. Again, this particularly gets worse when you have things that have stopped work for week or month for a while and you're trying to go back in and you have some notes from the city and you have some changes to make. Which one is it? [0:11:12]

You may not even know that it's a choice of which one. You go to where you think the latest one is and open it up and do some work. And then at some point, you realize or somebody realizes, *wait a second what happened to those changes we made*? And you realize you've been working on the wrong file or an older version of the file. So how do we avoid this? How do we make sure that revisions are handled in a consistent, reliable fashion?

By the way, I'm looking at some other comments here. Tom says, "I always make a copy for each change version if it goes to the client." [0:11:52]

Okay, so that has to do with making sure that you always can find older versions. Bob says, "Plan checkers are people who review submitted construction documents for compliance with codes." Yes. I am familiar with that. They always find missing or incorrect notes or deficiencies, that's what they are supposed to do." I do understand that, but you wrote earlier, "Significant issue during permit application process when plan checkers are involved." So they're making notes about things that are incorrect or are deficiencies, yes, and then obviously you go back and correct them and remedy the deficiencies. [0:12:28]

So what issues come up is my question to you. So anyway, Ken Andrews writes, "When a Mac crashes or locks up, ArchiCAD as a Save function if you answer correctly when it reboots. Okay, that is true. And Ken says, "You'll get right where it failed." So in other words, if it crashes. Let's just simulate that. So I'm going to go and put in some more trees. I have a whole bunch more in the back end here. And let's force it to quit. So I am going to go in and force quit. In the Mac, its Command+Option+Esc. In Windows, it think it's Ctrl+Alt+Del. This will force it to quit, and usually you don't want to force ArchiCAD to quit in the middle of things without saving, but this would simulate what would happen with a crash. So I am going to force quit, and it says "You'll lose any unsaved changes." [0:13:22]

And I will force quit. Now, it says "ArchiCAD had a crash." Well it didn't really have a crash, but it's thinking that that's the case. I'm not going to send the bug reporter. So [it says] "You have forced this to terminate. If you've done so because of a deadlock or freeze, please give a description and send the bug report." Well, no, I'm doing it because of training, so no. I will just quit and not send it. And so [it says] "You did not send the report, do you still want to quit?" Yes, I want to quit. Alright, so now I could go and double click on a file here. You'll notice that it has the .lck, and that is the last one, but it's the 1:20 here, and this was from before I put those last trees on. [0:14:07]

Let me go ahead and open it or I could start up ArchiCAD. We will get a similar message either way I believe, and that is that ArchiCAD should tell me that there is a version of the file that I might want to open. It says here "ArchiCAD Project Recovery." "ArchiCAD's AutoSave folder contains data of the following project." I think we can open it up a little wider so you can see the name of it. And it does allow me to open that project. Or if I was just playing around and I don't need that file, then we can say "Delete All." And if you had a big crash and had more than one instance of ArchiCAD running, you could potentially delete all of them or open project and delete the others or just open selected project. [0:14:54]

I think this is a new option here, open selected project and delete the others. I don't remember seeing that. In any event, in this case I had done a little bit of work or maybe a lot of work and hadn't saved it, so I'm going to say, "Go ahead, yes please, recover this project." So I will say "Continue" and it's reading

it from 1:19. Remember the other one was 1:16. And there are all those trees that I did. So hey, we're in good shape. ArchiCAD has gotten more and more sophisticated as time has gone on, and data safety is something that is handled better than it used to be. Let's just take a look at the Options, Work Environment, and there's something here called Data Safety and Integrity. So the Work Environment has to do with your particular computer, so this is set for your computer and it does not have to do with the individual projects, so it's for all projects. Until you change it, certain settings will take place. [0:15:56]

So the Data Safety and Integrity has some choices. In recent years, they have introduced some new auto save options. It used to be that it would either be a certain numbers of steps. Typically it was ten steps, or a certain number of minutes, like every 5 minutes or every hour. It would make a save. In the old days you'd see a bulldozer icon, a tiny little icon the size of your arrow cursor, but it looked like a little tiny bulldozer. It would indicate that it was saving. And usually that would be very quick, half a second or a couple of seconds. But occasionally, you might have it take five or ten seconds or even more. And it could be a little annoying depending on how big the project is and how much time it took. [0:16:49]

Now in recent years, starting with the fact that ArchiCAD developed tools for Teamwork that allow it to segment changes, in other words, to just save the individual keystrokes or actions or things that are drawn in a more granular way, it became possible to not only save it more quickly but to ultimately have the ultra save option where every step is putting in the data in a little temporary file. And this AutoSave folder here, so this is where it's located. That could be used to recover your work. So you saw that I had a few trees. They're all there, every step in this case, every click where a placed a tree, it saved in the background. [0:17:39]

Now remember when I clicked that, I went click, click, click, click. I didn't wait and there was no delay, so it's fast. Now potentially if this is not on your local machine and it was saving it to a server, it might be slower. But in general, ultra safe is pretty good. If you ever find that gets in the way, you could switch this down to here. Now "Undo Limit" is if you say undo, undo, undo, you can go back several steps. You can take this up to 99 steps if you wish, and that would allow you to undo a lot of things. You could do an experiment. Let's redo the roof this way. Let's move this over here, change that, change this other thing. You're ten or twenty or thirty steps along and say "No, let's just go back. That doesn't work." [0:18:27]

So you can go back. If you wanted it to be more twenty, you can. I believe the limit is 99, so it's unlike AutoCAD. At least in the old days in AutoCAD, you could go back to the beginning of your session. This will have a limit of up to 99 steps. I have never really had people raise this is a big issue, but occasionally I've gone back more than 20 steps or wanted to and said, "Whoops. I guess I don't have any more undos left there." So if you're doing more experiments, you might want to boost that up. Now "Make Backup Copy," that's what made the .pln and .bpn files. So here's the .bpn file here. That was the backup copy.

I don't have backup copies for these other ones because I hadn't actually saved them again. In other words, each time in this test I just saved them with a new name. [0:19:18]

But if I'd done the landscape and then said "Save" - in fact, let's just do that now. I will cancel out of this and go back here. And let me hit Save. And we go back to the finder, we will see here is the landscape plan I have open. Here's the .bpn, which is the one from 1:16 PM; remember we saw before I recovered. And here is the one that I just saved at 1:25. So that is some of the things that we have under the Work Environment, Data Safety and Integrity. There are some things in terms of integrity for checking hotlinks that relate to a different topic, when you do a save, it will check to see if the hotlinks are up to date. [0:20:06]

So briefly, if you are using hotlinks - and I did cover this in the section of the course on hotlinks - these would be either separate buildings or parts of buildings like a unit plan or a staircase that you are maintaining in a separate file and then linked in. In MasterTemplate we also use hotlinks for legends for frequently used components that sit off to the side. So if they are out of date when you go to save it or you go to open the file, it will give you information. And you could actually say "Update Hotlinks Automatically" which is something that they added at a certain point. It might be a nice thing to do if you don't want to be bothered with that. And of course "Ignore Hotlinks", use at your own peril, but it basically means if you're saving a project, maybe you have something that you think is up to date but it doesn't have the latest version of the linked in files there. [0:21:00]

Here is something working with Teamwork. We're going to be spending some time soon talking about Teamwork, so we will look at some of the Teamwork stuff here. Alright, so this has to do with the safety, and you saw that it was really cool how it worked there. And I'm sure with latest versions of ArchiCAD in general, it works pretty reliably. And up to every step, you don't even potentially lose so many steps. Now this is actually "Save for Minimum," and this is "Minutes." It used to be every ten steps or so many steps or so many minutes, but obviously now they've made it every step or a certain amount of time. So I would only move this down if you find that, for some reason, it's bogging down when it's on this "Ultra Safe" setting. That would be the only reason I would personally do that. [0:21:54]

Now let's see if there were any other comments. Dave Olafs says, "File naming standards are critical." We're going to go into file naming standards in a minute.

Colin says, "I always publish a PDF of each version as I submit it to the client in an archive file with a version date so I can identify what .pln file to open for the right version." Excellent. That's all part of naming to keep track of it.

And Dave has a naming system, "12-25-03-X-N, name, etc. The first number is the job number; the second is the project phase. XN means exist and new. Next is project name. Okay, so we'll actually take a look at your system, Dave. I think that's great that you've shared your system. [0:22:40]

Ted has a question. "What are the .lck plans that show up sometimes? Are the temporary and can they always be deleted?" Okay. So I'm in the middle of running with ArchiCAD, and this is the file that I have open, and here's the .lck. This is normal, and it is part of protecting your work from having a problem with someone else in your office opening up the same file. Now, I'm sitting here solo, I don't have to worry about it, so I never even think about this, except if there's a crash. If you copy a file while it's open, then you may get a message that a similar to this, which would be "So and so has this file open, do you want to take over?" [0:23:25]

Let's just simulate that so you can see what I mean. So I have this file open right here, and I'm going to go and duplicate it. So let's go to the File menu, Duplicate. Alright, now here is the copy of it. I'm going to go now in ArchiCAD and say I'd like to open up this copy. So I'm going to say Open. I will leave this one open and say launch a new instance, and I'm going to open up the copy. So this is an independent file. It has all the same data as this one. I will say open it. Now when I do this, it's going to launch a new instance of ArchiCAD, and it will of course bring up the file as of the last saved version here. [0:24:12]

Let's see if it gives me any warning about that. In this case, it did not. Now it was truly a legitimate copy, so it is a separate file, and I could work on it. And you might find a reason to do this. Sometimes you want to make a copy and go work on it, test out something to see whether it's going to work and then possibly copy and paste things. In fact, I will use this as part of my revision demonstration; revisions in a different sense of different schemes and different options. So we will leave this open. I didn't actually simulate that message that I wanted to bring up. I'm not quite sure if there's something that is a little different about what I did, but let's get back to Ted's question. [0:25:08]

This .lck file will normally be deleted. You'll notice there's an .lck for both of these, because I have two copies of ArchiCAD open. This is also known as the lock file, just using three letters instead of four. It indicates that the file is open, and if somebody else were to open that file, if you were to tell it to open the file, it would give a warning saying "That in use." And it would identify the name of the person whose workstation it is. So "Eric has this file open." And that warning message, when you're opening it, would tell you that it's open by Eric and then give you the option to either create a copy or have are read-only copy. Basically, if you said "Save" it would say "Where do you want to save it?" because you can't overwrite the original one, or you could choose to take over. [0:25:59]

Now why would you ever want to choose to take over? Suppose that in this scenario, you have the file on the server. John has been working on it and he saved his work, he told you he saved his work, but it is still open on his computer. Maybe it's a laptop or something like that, and he closed his computer and took it with him and forgot to close out of ArchiCAD. So ArchiCAD technically is still open on his laptop,

the file is still open, but you know that he's not working on it. Maybe he's at lunch or there's something else, and you know he's not working on it, and say you want to open it up on the server and you want to take over and do some things. [0:26:40]

So you could then choose the option that says "Take over" - I forget what it's called. It's not "Take ownership," but something like "Take over editing of the file." What will happen is then the .lck file would indicate to change who owns it. In fact, if I double click on this, I bet - this is opening up in Dreamweaver. Where is it? Here is the .lck. Maybe it's a little hard to read, but it basically has my name, Eric Bobrow, Eric's Macbook Pro. So this has my name and my computer here with some extra characters there. So that is what that lock file has, it's a very small file and just as the name of who has it open. So if you do attempt to open it, it will be able to say "Eric Bobrow has this file open on Eric's Macbook Pro. Do you want to open a copy of the file or do you want to take it over from Eric?" [0:27:43]

So that would be the message. So this will disappear. As soon as I quit out of ArchiCAD, the .lck file is deleted. So it's just simply a flag this says "This file is open by someone." And you asked, "Can they always be deleted?" Well there is the rare case where the .lck file is left over, maybe due to a crash. In fact, let's go to the "Landscape copy" and let me force quit on that. I'm not sure which one is which, but I'm assuming that's the one. I will force quit here. And again I'm going to go through that dance with the bug reporters saying "You forced ArchiCAD to quit. Do you want to report that there's a problem?" Let's just see here. Still waiting. Alright, I think this is probably the one. You can see the one that's open is the landscape one and the copy is this one. [0:28:55]

Let's just tell ArchiCAD to open that. Here's the message: "This file is in use by Eric Bobrow at this thing. Exclusive access is an emergency option." So there are two cases where you might want to do this. One is if the person had it open and they didn't quit out of it, but they closed their laptop and when away or their computer is sitting with the screensaver on it, and you can't get access to it. Maybe it's in another part of the building, whatever it is, you know that they shouldn't continue work on and you need to work on so you're going to take over. So you can say "Open with exclusive access." The other possibility is, it was you who was on there, you had a crash, and you are opening up and basically you don't want to do read-only because you want to continue working on it. [0:29:50]

Then you can say "I want to take over from my earlier work." So this will delete the .lck file. So when you say "Open with exclusive access" it deletes the old .lck and creates a new one. Now let's just see what happens when I say "Don't open this." So this is either going to quit out of ArchiCAD - it's just not starting up ArchiCAD again or not switching over. Let's see what happens if I go to the Finder and delete this .lck file. So I'm going to delete this. I will say "Move to trash." Now it's gone. And now I double click on this, and it closes the current file and opens this up as if nobody was in there. So basically the .lck file is what protects against that. So should I have deleted that? Since I forced it to quit, I knew it was my file and nobody else was around, perfectly safe to delete the .lck file. But if you have any doubts, then you should let ArchiCAD give you the warning and see who has it open or what the case is. [0:30:58]

So hopefully that answers that well enough for you Ted. Let me know if you need more explanation. Okay so we have the copy here, and let's talk about what I recommend for naming conventions for that. I think it's pretty similar to what many of you have written; those of you who took the time to write a note. Let's just explain it and you can tell me if it's any different. I'm going to assume that this is the name of the project, and that descriptions like "Final" or "With landscape" or "Landscape copy" are sort of adjectives describing that. Now "Final" and "Latest" and "Use this one" and "Print this one" and those sort of descriptions are a little vague; they are exclaiming that they are more important or more final then another one. [0:32:01]

Dates of course, as I said, date and time are important references, but they are ultimately not very clear. You could have ones that could get confused, and they can even be in different places. So what I recommend as a good rule of thumb - feel free to change it but a good rule of thumb - is keep the name of the project the same through the life of the project. You may disagree, that's fine, but here's why I suggest that. If it's always the same, "Smith house" or "Northridge Hospital" or whatever, then you never have a question of what's the latest version of the file. Its always that file, and it always lives in a certain folder. [0:32:44]

Of course we are in week 26, but it would be something to do with the client and you know that's where it is. There's never any question. Now what about all these copies? Well, when do you make copies? A good time to make a copy is when you want to record a version for later reference. So there are two types of references that I would talk about. One would be just routine day-to-day record keeping. In other words, each day, if you follow this idea, you would have a version. So let me take this. This is not open, there's no .lck file. I'm going to go and duplicate this file here. Instead of having it called "Copy" I'll just put something in here that is "October 23 2014." Now you can format this any way you want. [0:33:41]

You could put it in parenthesis; you could put a dash or all numeric. If you wanted it to sort by name then you might do -2014-1023; something like that. Let's say I'm working on the 24th. I know that this is the file that was from the 23rd. Now when would I create that? One way that you could do it is when you come in in the morning or when you open the file for the first time any particular day, you would duplicate the file and make the duplicate copy have the date stamp for whatever date it is. So in other words, it was last changed on the 23rd. You put "October 23" on there. So you duplicate that and then go and open up this file and do your work for the day. Whether it's for 5 minutes or all day, you're working on this. [0:34:43]

The next day you duplicate it, and you have now 2014-1024 as the duplicate. And you continue work with this file. So this is always the latest version and you start accumulating multiple ones that say October 23, 24, 25, etc. Do you have to keep all these back to the beginning of the project if it goes on for two years? No, that's really a judgment call. A standard backup strategy with IT backups - in other words, for computer backups and server backups that I learned years ago and still is a reasonable

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reference system - is save every daily iteration or backup for a week, and then once a week for a month, and then once a month for a year. You may need more than that, but certainly that gives you a certain number of copies. You don't end up with hundreds; you end up with maybe a couple dozen or something like that. Five for a week, three for the rest of the month and another twelve for the year. [0:35:57]

So you might end up with about twenty backups. Now these are routine backups. These are ones where we're saying what were we doing with this project in September or June when we were talking with the developer about this or that? So you will have a copy even if you never thought you'd need one, you'd at least be able to refer to it. Now of course milestones or phases, deliverables, these absolutely should be recorded possibly even as simple as after this meeting or before this meeting or something like that. So anytime you think it would be a good reference, feel free to make another copy and it would have the name of the project and then some description. "Submission to city October 23, 2014" or "Client sign off this" or "Bid set" or whatever it is. [0:36:52]

So this would be a way of saying alright, we're going to have routine ones and we're going to have ones that are named based on their position in the project workflow or timeline. I think a combination like that where you just have a routine thing and then you have some specific record copies will protect you nicely. Now with that being said, these are all on my hard drive in this one folder. How safe is that? Well, it turns out that I have two types of backups here. I have Time Machine, so this is the built-in Mac operating system. I can backup at any time. You can see that that last backup was just under an hour ago. So any new files are backed up to an external drive. I have an external drive sitting on my desk. [0:37:44]

So that's pretty good, because actually, as long as it has room, it will keep track of all these files essentially forever until it runs out of room. I can even go back to any iteration in the Time Machine. Even if I delete it here locally, as long as Time Machine hasn't run out of space it will have a copy of that. I also believe in extra redundancy. So I have service here called "Back Blaze." For something like $50.00 a year, you can back up a computer. So if you have two computers or five computers it goes up, but it's still only $50.00 a year. What does it do? It basically backs it up to the cloud and it does it in the background. Right now I guess it is backing things up. I recently moved a whole bunch of stuff from one hard drive to another so it has 645GB to catch up on. [0:38:38]

Normally it has just a few files, whatever was worked on that day that it's catching up on. So it's doing it in the background and it's a very economical thing. There is another one called "Carbonite." I'm sure there are a variety of ones. I also use Dropbox. Many of you use that here. I don't quite know if it has automatic backup for this sort of thing, but Dropbox is more optimized for sharing between multiple computers or with clients or consultants, whereas something like Back Blaze or Carbonite are more oriented towards cloud backup. And of course Apple has its By Cloud and there are other things. Google Drive. There's lots of cloud stuff, but these Back Blaze and Carbonate are two that I know are specifically

for backing up. They are not for sharing per say, although you could grab a file and share it. But in general it's for recovering stuff. It gives extra security. [0:39:47]

And when would you need it? Well in the case of disaster, if there's a fire or theft and your computer and your external drive or your server backup are both lost at the same time, it's nice to know that at least in theory you could go get it from the cloud.

Ken Andrews writes, "I use a separate external drive 3TB." That's the size I use as well. I use Carbonite $59.00 a year, very similar. I can access it when traveling, etc. Plus Dropbox." Yes, so as you can see I'm using Dropbox plus Back Blaze which would be very similar to Carbonite. [0:40:29]

Ken says, "I got hit by lightning and it was excellent." You got hit by lightning? I hope you mean you're your was hit, not you personally, but glad to know that you were able to survive a cataclysm that way. Alright, so that is sort of a basic description of keeping things safe over time with having a consistent place and name for the project and then copies that are either done on a date basis or on a milestone or incident basis. This will keep you pretty darn protected, and then you have the backup to another computer or hard drive or to the online cloud. So now we're talking about essentially having lots of redundancy. So if one point of failure happens, like your hard drive goes down, you can easily get it from another hard drive. If your office had a flood, you could get it back from the cloud. [0:41:37]

Now let's talk about revisions and what sort of things would happen. And I did ask you for some examples. Ken Andrews writes, "No, it hit outside and it came into the computer." So I guess it fried your computer as a whole or your hard drive. So that's definitely one of those things that can happen.

Okay, a number of you said file naming standards are critical. So I just gave you my example. It comes from an IT perspective. In other words, information technology perspective. Before I got involved in architecture that was the system I learned, and it's a good reference there. I know that there are certainly systems you'll want to use for jobs. So Dave has an interesting one where - and I'm sure many of you have something similar - the first number of the project is the job number the second number is the project phase. So we have 12-25-03. So I guess 12-25 is the job. The 03 would be one of the phases. I assume from it being numeric that it would be 01 or 00 possibly for the first one and then going on up. [0:42:51]

And I don't know whether phases are always the same or if these vary depending on projects, but obviously that will help you. Now I mentioned having the name of the project consistent. That does not prevent you from doing something where the name changes as the phase changes. So we're not changing it arbitrarily, we're changing it when a new chapter is turned; a new phase of a project. So we know that if it says the name of the project or the number and it says "01" and it's in a certain phase and if there's a "02" I can presume that that's later, because we finished 01. So 01 is going to be up to a certain phase and 02 will continue. So no problem as far as I'm concerned with changing the name

when you change phase. But this is a major change as opposed to just routine or haphazard or ad hoc. [0:43:49]

Then you have "XN" means exist and new. And by the way, Dave clarifies, "00 is as built, 02 equals schematic design. 03 is DD and 04 is CD." So what is 01 for, or do you skip over that?

And Ted writes, "When I save as with new date as a backup I have to relink drawings. Is there an easy way to relink dozens of drawings?" Well what I've just suggested is that you do not, in general, save as. Keep the name the same. If you do change the name based on the phase, then you are changing that name. But relinking drawings, so when would you - I'm changing the name of the main file rarely. After a phase is done, so after a month or three months or whatever time, it has a new name. Well, what references this file? This is the overall file that contains everything else, in the simple case. It's not being referenced from outside. So no big deal, you just know that that's the one that you're working on and in fact maybe you have an archive folder. [0:45:07]

We will create a new folder here. So I just generally use a folder called "Archive" and I take earlier versions or other versions that I don't want to get confused here and I put them into the archive folder. You could have any number of folders, just to move them out of the way, earlier phases. Now I mentioned this is the simple case where this is the containing file and the other files maybe contain references to DWG files or PDF files or other supporting files like PLNs. Now when would you actually refer to a pln from another pln in the case of a hotlink? When would you actually have a hotlink in a project? What are the cases? [0:45:59]

Well, we would have a hotlink for a unit plan. So let's say you're doing multi-unit projects, a hotel or school or something like that, and you have a unit type and that is in a pln. And so of course you are developing it further. Maybe that goes the different phases as well. So your 01 - okay. Dave clarifies "00 is original downloads, 01 is as builts, and 02 SD, etc." And after CDs, 05 is bids and 06 is CA. That makes great sense to me in terms of phasing and making it clear as a model or a project file develops. [0:46:46]

Now if you're changing the name when would it be important to update? Well it is referenced into another file. So if it's a unit plan file or if you're doing a multi-building project and you have multiple buildings that are PLNs individually that are referenced into a site plan or a master plan, PLN as hotlinks. The question is how could you update many of them at the same time? Go to the File menu, External Content, Drawing Manager or we can access the Drawing Manager from this popup here, from the Project Chooser which is this button here. You can see that. [0:47:33]

Now in the Drawing Manager, right now all of these drawings here are within; the source view is within this file. So the path is internal. Now if we have files that are external - so let's go ahead and move this off to the side, and let's bring in an external file. I will go External Content, Place External Drawing. I'm not going to bring in another PLN right now. Let me go and get a JPEG file. So here's a JPEG file for a BIM

conference that Graphisoft is running. You'll notice here it is in the Drawing Manager. I put it in as a drawing; it says it's okay because it is up to date. The source is a particular file here, and it is in a particular location. [0:48:32]

Volume, this is the path on my hard drive where it found it. Okay, so we may have many of these things. This file as a graphic is probably not going to change, and many of these are not going to change or if they do change they're going to be updated. You're going to have a later version of a PDF, so that's when you would want to update. There's this little button here, this is Update Drawings" and you can do that. There's a slight link here, it just double checked that it was up to date. Here you can also click on Check Status. It already says OK. [0:49:10]

Now if you have a bunch of these, you can go and relink. So have this selected, and I can say I want to relink this. Instead to this file here, I want to link it to another one. Here is a different graphic having to do with an ArchiCAD event. I will say it's that one. And hey look, I just changed it and now it's a different file. Of course it might be more a subtle thing, like a later version of the file with a different name, but I can basically say that this thing should point to the new one. So that is linking them one at a time. Now if you have this selected, and let's just say that's a JPEG and let's go and place another file here. Place External Drawing - and let's get a PDF. Do we have one in this folder here? [0:50:02]

Let me go to Downloads. I am sure I have PDFs in my downloads. What do we have here? I will say "All Available Types" because I want to look for PDF files here. And it should allow me - it's interesting. I chose that and enabled that and it's still showing just JPEGs. Here are bank statements. I don't think I really want to bring that in during the training. There has to be something that I could put in here. 24x36 Project Life, I don't know what that is, but 24x36 sounds like it's something related to architecture. Yes, this is a nice graphic about the life of a project; that's an interesting little thing. [0:50:59]

Now this is a PDF and this one is a JPEG. You'll notice the icons are slightly different. If I highlight both of them, you'll notice that this icon here changes from link to a slightly different one that has a tiny folder that says "Read From." If I click on that, then I can basically say that I'd like to select a folder. And remember, I had this in Downloads here. I can basically say, *go and try and find files with this name from this folder*. So this is a way that you can update multiple files to be in a different location than they were. So it's great if you're actually moving from one place to another. Maybe moving from one computer to another or possibly moving from the office to home and back again, because you can select multiple external files, do the "Read from" and say *read from this folder here on this hard drive* rather than the old folder. [0:52:02]

Now it does require two things to make this applicable only in certain cases. All of the names have to stay the same. In other words, the files exist in the new location but they have the same name, they didn't change names. If they change the name you have to do them one at a time like I just did with this other graphic. So they have to have the same name and they all have to be within the same folder or

possibly within subfolders within it. I can't remember if it will look within subfolders or not, but certainly if it's at the top level of a certain folder. [0:52:37]

So the ideal case where you say "Read from" here is when something is in a new location, but it really is still the same stuff. Maybe things have been updated, but it's mainly the same stuff in a new location. So when do I use that? For MasterTemplate. So let me just explain. I create MasterTemplate here in my office. I post it, people download it and put it on their own machine, and there are some links to some shared files. These are in MasterTemplate here, and there is a folder called "MasterTemplate Linked Files." So these things have to do with some of the office standards and some other supporting files here. [0:53:21]

Basically, if when they install MasterTemplate, someone says "Read all those files in this folder," it relinks all of them at once. So that is the idea of this folder. In general, this "Read from" is a very powerful thing when you're moving from one location to another. If you're changing names, like the question was, it won't help. If you change names you literally just have to go one at a time and say *this one I want to link to the new version*. So it can be relatively quick, but of course, if you have hundreds of these items then that could be an issue. But again, in general, these are the supporting files rather than the main file that we're talking about. So let's see if that answers some of the questions that came up. [0:54:17]

Bob George says, "The plan check process can change window sizes or locations, roof or wall framing details, foundation details, electrical outlet locations, plumbing and heating system features, etc. The volume of these kinds of revisions is often greatest after a new code goes into effect." I certainly understand that you get plans checked, you have to make changes. So my question is what issues are there in managing these changes other than the fact that you have to go and take care of them?

Dave Olafs says in his comments about his system, "XN is renovation and N is new ground up construction." So you're just explaining some of your system there. [0:55:04]

Tom says, "Is duplicating a file different than Save As?" Very good question Tom, thank you. Remember that I was working on this example file and I then said "Save As" and I added "Final." And I kept working and I added landscape and said "Save As" and I put "with landscape." When you do a save as, the file that you have open changes names. It's very important. When you save as, the file that you have open changes its name. So here I have this "Design Example with Landscape copy" I go and say "Save As" and we'll just call it "Design Example" and instead of having a description here, let's just give it the date. 2014, 10, and let's just pretend it's tomorrow, the 24th here. I will say "Save" and notice that the name up here is now this one. This is the file that is the latest version. That is potentially problematic. Why? Because now, the one with the plain name is not the latest version. This one is the one that is open and that's the latest version. [0:56:24]

So while you can do a "Save As," be careful, because that is the file you're going to be working on. If you follow my idea from before, the date-stamped ones, the ones with the date on them, would be revision copies or archived copies. They would be earlier copies. So "Save As" would mean that this is the latest one. I've seen people everyday change the name of their project and put today's date stamp. It can be confusing in two ways. One is that sometimes you work on it, it says "1024". I've seen so many times people say "Which one was it?" And they will say, "It's the one with October 7th on it." Here we are now, it's October 23rd, and they're working on a file that has a name "October 7th." It's no longer the October 7th version, it's the current version. [0:57:13]

 It gets very confusing. So having it with a name and then these being duplicated rather than save as will avoid that issue. Now again, if you're going to change phase, save the final version of the schematic design one with the name "SD-Final" or something like that. And then save as with "DD" or I guess you had a number like 03 for that. And now that's the one we're going to work on. So that would be a way to avoid the confusion. But very important to use Save As sparingly because as soon as you say Save As that is the latest version of the file that you are working on. [0:58:14]

Bob says, "Plan check process means that some drawings have to be revised to satisfy the reviewer's comments." Bob, I appreciate your continuing to clarify that. I did understand that you have to make changes to satisfy the reviewer's comments. My question is do you have a problem in terms of naming files? Do you have a problem with finding older versions of files or whatever in relationship to the plan check process? I understand that projects have design development where you continue to develop things and then you have corrections or revisions based on plan check, and they are both part of the lifecycle the project. So I understand that. [0:58:56]

Dave Olafs writes, "I only change the date YY/MM/DD at a milestone event." Okay, so I'm saying these are not really milestones, these are just routine records of the version at a certain date. And of course you can put in a milestone and have a version for a milestone there. Maybe just you know you submitted to the city on October 24 so that's engraved in your memory or in your documentation, but you may want to also put a description thing if it's a milestone with a certain date, client sign off, submission approval or whatever. [0:59:47]

So let's look at another part of this. We've gone a little longer on this part than I thought. I want to talk about how you get something from one version of the file to another in terms of different versions of the file and comparing different versions. So maybe since we are over an hour, I'll just do a couple of things quickly and then we'll see if I need to schedule another session for some of the other ideas that I'd like to share with you. [1:00:21]

So here we have this "1024" file. Let's just say here we have this roof, and I'm going to go and overhang the roof a little bit on these two sides here. And let me go and take this wall and move this. So we'll take these walls here and extend them out. We'll take the roof and extend that right over there.

Alright, so I've made some arbitrary, trivial changes. But what happens if we did it in one file and we actually needed it in another file? Now when would that ever happen? You remember I saved as a landscape version or with another name. Maybe this is an experiment. If I go and say Save As, and we're going to change this here to "Front Extension Scheme." So here is a variation. And I'm giving some type of a descriptive name saying that it's a scheme or an idea something that involves a certain change to the building. So I will save this here. [1:01:55]

Now let's just say that I have another version of the project here. I will launch a new instance and we'll get this one here. I am going to have two versions of the file open and I am going to put out a scenario where we have different work being done in different files here. Remember, I had forced to quit here, so we will delete that, I don't want to open that one. So I'm going to open this other one that was literally from earlier in our process here. Okay, so let's just say this doesn't have the roof but let's say I had done some other work with the building design here and this is further developed. I have some interior walls here. So I have some more stuff that I've done in the building. [1:03:01]

But in this other file I had done this experiment, and I liked what it was or the client liked it, and I need to get that in. So what would that involve? Well remember, if I flip over to it, I extended this wall and changed the shape of this. So maybe what I want to do is just select the roof and these walls here and copy them. And let's just go to the other file here and say that these ones are really out of date here. I will delete them and paste. I'm going to do Command+D or CTRL+D and they come in. So that's the very simple case where I can delete the out of date stuff and copy and paste in the other things. And all of this happened to be on one story so it was relatively easy. [1:03:59]

Now the nice thing about ArchiCAD - and I'm sure this is not unique to ArchiCAD - is when I copy and paste we go into exactly the same place. I don't have to manually go and position it. And of course it's on the same layers and all that. So that is one thing probably most of you are pretty familiar with. You can copy from one file to another and get that data. So that's a way that you can have multiple schemes. You can make a copy of a file and try out some things. Of course, you may be doing work in another part of the project in the main file, and then you want to bring in some of this stuff from here. And this could be an experiment; it could be an old version. So remember, if you had that version from two weeks ago or a month ago or whatever, and it had a different balcony or a different roof line, you could in theory go and copy it from that older file, bring it into the new one. [1:04:57]

What happens if it is hard to decide what is new and what is old? There are so many things that it's just hard to delete all that stuff. You don't want to accidentally delete something that shouldn't be deleted. Let me just undo back here. Remember this was the version before. And what happens if I paste in and I don't delete? Let's Edit and Paste. You can see the new stuff came in, but here is the old version of the wall and here is the new version of the wall. And actually both this front wall and the smaller front wall. There are two versions of that, so we have some duplicates. [1:05:42]

So it doesn't look too bad. We do have some funny gaps in the corners because of the duplicates. One way that we can deal with this is of course we can look at it after the fact and say *well this is the old one, let's delete that.* And you can go manually clean that up. But here's a tool that you might find useful. I'm going to go and undo the paste and then redo. Now redoing the paste is different than pasting again. The case is different than pasting it again or repeating it. Redo will bring it in and put handles on it. So if it has handles on it, what can you do with this? Well for one thing you could group them. So you can go to Grouping and say you want to group them. [1:06:31]

Now with groups turned on, we can select any one of them and it will select all of them as long as groups are active. With groups active, we can select it and drag it off to the side and maybe study this. Let's drag it off a certain fixed distance, like 30 feet in this case. Now I can look at it and say, "Alright, let me delete these." Now we can study the side by side. And that may make it easier to delete the stuff that would be duplicated. So that would be an interesting thing. And then of course you select this, drag them back in the 30 feet, and if necessary ungroup them. That will potentially help you with that. [1:07:18]

Now let's just undo the move. We're going to have some things that are duplicated. Now I don't have any objects here, and really the only things that are duplicated are this wall and this wall. But in some cases versions might have a lot of duplicates, because there are only a few changes and most of the stuff is the same. So how would you get rid of the duplicates just to make it really simple so we don't have a ton of duplicates? Well there is an add-on in ArchiCAD that's free. Go to the Help menu and go to ArchiCAD Downloads or in earlier versions of ArchiCAD it would be called ArchiCAD Goodies. Maybe before version 15. It will take you to a web page for downloads, and there's something called "More about Add-ons and Goodies." If you're in an earlier version of ArchiCAD it might go straight to a page that has the word "Goodies" on it. [1:08:15]

Here are the goodies, and again, I can go follow the trail to download goodies for ArchiCAD. I have to choose which one, here is U.S.A goodies, and here they are. So now, in earlier versions you might have gone straight to a page like this. I had to click several times, but there's one that's called "Check Duplicates Tool." That's the one I want. So I'm on a Mac. I'm going to click on that Mac icon here. It will go and download this. So I have this file, this is a disk image file. It's basically a little file that will open up as if it was an external CD or something like that. [1:08:55]

I will say "Save" the file here. You can see it's downloading. Open this up. And it's so small that I can just open it up right away. And here is the .dmg or disk image file. If you're on Windows it would be a zip file. But when I open it up, it then gives me an installer. Here actually is that virtual disk and here's the installer. So I'll say "Install" and this gives me a warning because it downloaded. I'll say yes, open it, and within a few seconds it will install a command that allows me to check for duplicates. So it's very quick. I'll go ahead and say "Next". It tells me to quit everything. I won't, because I don't think we need to here. It's going to put it into the ArchiCAD folder here and install it in there. [1:09:47]

Let's see if it complains about - "You can't install it while ArchiCAD is running." So we will hold off here. We go back to ArchiCAD here. So this is the one which has the duplicates. Let me save it. Here is the design example, and we'll quit out of it and go back to that. Let's go to the other copy of ArchiCAD that I was copying from. Save and Quit out of ArchiCAD. As soon as we quit then I can go ahead and install this. It installs it virtually instantly and finish. So now we go back into the file. The one that we were working on here is this one. This was just saved a minute ago. I will open it up, and we will be able to use the Check Duplicates tool to clean things up. [1:10:44]

This is a tool that I think probably most people don't know it's there, and most of the time you don't need it, but occasionally it's a real lifesaver. You could potentially have an issue where you copied and pasted more than once by accident, and you ended up with multiple instances pasted on top of each other. Maybe not just one thing but a whole lot of things, like an entire floor plan. I've had people say "I don't know how I did it, but my entire floor plan is duplicated. If I delete a wall, there's another one right behind it." [1:11:15]

Okay so how do you do this? Maybe it's under Document Extras, Check for Duplicates. Where is it? I'm trying to remember now. I am going to bring up the ReadMe. This will tell me where it goes. It says "Add-on will add two new commands, select duplicates and delete duplicates. A new set of commands will appear in the Edit, Check Duplicates sub menu by default. Edit, Check Duplicates sub menu will show up somewhere. Does it say where it's going to show up? I was looking for it but I didn't see it. Two new commands, Select Duplicates there. Let's see if we can find it. I don't see it there. View, Design, Document…this is frustrating because I know that it should be here. [1:12:54]

[1:13:26] I am going to have to manually place it. I'm going to go to the Work Environment, Menus. Here's our menus. I will assume the Edit menu is a good place. Here are the existing menus that we have. I'm going to go to the menus that exist for commands. "All Commands in Alphabetical Order" and this would be under "Select Duplicates" I think. Let's try under "D" for Duplicates. I don't see D for Duplicates, so it might be under Edit. Maybe it's under "Check" or "Check Duplicates." Why are we not seeing that? Did it not load that properly? This is a little frustrating. We have our add-on manager. Let's just see if the add-on is in there. So we have the add-on selections. It looks like even though I installed it, it didn't get put in. [1:14:50]

So that's why we're not seeing it. So let me see, can I edit the list of available add-ons? Search for more add-ons. Here is the issue. For some reason, it's thinking that it's in the ArchiCAD 18 international folder. I have more than one duplicate. Here is the add-ons here, and let's go and put it into this add-on. Choose that there and say OK. I may need to restart ArchiCAD here. So there was some confusion based on the fact that I have more than one copy of ArchiCAD running. Let's just open this up now and see if that shows up. I apologize, but maybe you've learned a couple things about commands and the add-on manager. [1:15:43]

Colin Healy says, "It is in the right window." What do you mean by that right window? "Some items cannot be loaded." I don't know why, but I will open the add-on manager. I double clicked here, and I'm probably getting the ArchiCAD 18 international - Edit, Check Duplicates. There it is. Okay, here's the Check Duplicates. I can say "Select". What does that do? It will look at the active window or possibly inside a marquee or just the things that are selected. It says there are two duplicates. Select them, they are here. Now I can drag them if I want, and you can see there were ones right behind it. I can delete them and just get rid of them. [1:16:39]

So that cleaned those up. And it won't find the fact that this and that, there are two walls and top of each other, so I would have to manually do that. Let's just say here's a case. I'm going to pop in these three cabinets, but they're actually six. I have just clicked a number of times on here, and we will go to the Edit, Check Duplicates, Select. It says there are five duplicates. Select them, and you can see there are the three that we see plus there actually three of them here. Let me just drag this off to the side. Here you can see these are now individual ones, and these are the copies. And in fact, this one I hit multiple times. I will just drag it, and you can see that there are actually five here. [1:17:31]

The idea is that it will find all of the stuff that is duplicated, and you can then select it and go ahead and delete it. Let me undo back. These are all in here. I could go straight to the Check Duplicates, Delete. It will say, "Do you want to go ahead with this?" So you don't get a chance to see them first, but if you know what you're doing, you can say go ahead and delete them. And they're gone. Now if I select this and drag it, you'll see there's nothing behind it. There are no duplicates. So Check Duplicates can be very useful in the case where you want to bring in a bunch of stuff from another file that you know a lot of it is the same and some is different. And you can easily get rid of the duplicates and then have - now I know, this is the old version. We made it a little bigger. [1:18:22]

And I know that there would be this extra piece of wall here and I can delete. So certainly you can simplify it. I don't have to go through every individual item, just the ones that might have two versions on top of each other. And remember that Group option where I could move things away and move them back is a good way to compare. Alright, so hopefully you have found this useful. I do have some other things I wanted to talk about in terms of revisions and version schemes and things like that that we can talk about next time. Any last minute questions before we finish up or comments? Did you find this relevant and useful for your needs? [1:19:10]

Dave says, "Nicely done." Thank you. Tom says, "Some new tricks." Magdalena says "Thank you." I appreciate the feedback. We will finish up for now. Please add any follow-up comments or questions to the page down below this recorded video. This has been Eric Bobrow, thanks for watching.

[END OF AUDIO 1:19:32]